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THE DECORATOR AND FURNISHER.

DYEING AS AN ART.

By William Morris.

DYEING is a very ancient art; from the earliest times of the ancient civilizations, till within about forty years ago, there had been no essential change in it, and not much change of any kind. Up to the time of the discovery of the process of Prussian blue dyeing in about 1810 (it was known as pigment thirty or forty years earlier), the only changes in the art were the introduction of the American insect dye (cochineal), which gradually superseded the European one (kermes), and the American wood dyes, now known as logwood and Brazil wood; the latter differs little from the Asiatic and African red saunders, and other red dye-woods; the former has cheapened black dyeing, in so far as it has taken the place of the indigo vat as a basis. The American quercitron bark gives us also a useful additional yellow dye.

These changes, and one or two others, however, did little toward revolutionizing the art; that revolution was left for our own days, and resulted from the discovery of what are known as the Aniline dyes, deduced by a long process from the plants of the coal measures. Of these dyes it must be enough to say that their discovery, while conferring the greatest honor on the abstract science of chemistry, and while doing great service to the capitalists in their hunt after profits, has terribly injured the *art* of dyeing, and for the general public has nearly destroyed it as an *art*. Henceforward there is an absolute divorce between the *commercial process* and the *art* of dyeing. Anyone wanting to produce dyed textiles with any artistic quality in them must entirely forego the modern and commercial methods in favor of those which are at least as old as Pliny, who speaks of them as being old in his time.

Now, in order to dye textiles in patterns or otherwise, we need four colors to start with, to wit: blue, red, yellow and brown; green, purple, black and all intermediate shades can be made from a mixture of these colors.

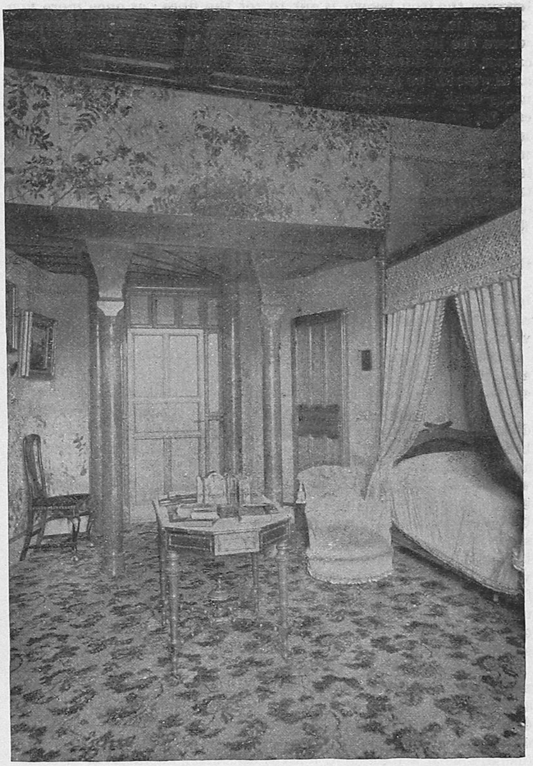
Blue is given us by indigo and woad, which do not differ in color in the least, their chemical product being the same. Woad may be called northern indigo, or indigo tropical, or subtropical woad.

Note that until the introduction of Prussian blue about 1810, there was *no* other blue dye except this indigo tint that could be called a dye; the other blue dyes were mere stains which would not bear the sun for more than a few days.

Red is yielded by the insect dyes kermes, lac-dye and cochineal, and by the vegetable dye madder. Of these kermes is the king; brighter than madder, and at once more beautiful and more permanent than cochineal. The latter, on an aluminous basis, gives a rather cold crimson, and on a tin basis a rather hot scarlet (*e. g.* the dress coat of a line officer). Madder yields on wool a deep-toned blood-red, somewhat bricky and tending to scarlet. On cotton and linen all imaginable shades of red according to the process. It is not of much use in dyeing silk, which it is apt to "blind," *i. e.* it takes off the gloss. Lac-dye gives a hot and not pleasant scarlet, as may be noted in a private militia man's coat. The French liners' trousers, by the way, are, or were, dyed with madder, so that their countrymen sometimes call them the "Madder-wearers," but their cloth is somewhat too cheaply dyed to do credit to the drysaltery.

Besides these permanent red dyes there are others produced from woods, called in the middle ages by the general name of "Brazil," whence the name of that American country, because the conquerers found so much dyeing wood growing there. Some of these wood dyers are very beautiful in color; but unluckily they are none of them permanent. As you may see by examining the beautiful stuffs of the thirteenth and fourteenth centuries in the South Kensington Museum, in which you will scarcely find any red, but plenty of fawn color, which is, in fact, the wood-red of 500 years ago thus faded. If you turn from them to the Gothic tapestries and note the reds in them you will have the measure of the relative permanence of kermes and "Brazil," the tapestry reds being all dyed with kermes. The Mediæval dyers must be partly excused, however, because "Brazil" is especially a silk dye; kermes sharing something in the ill qualities of madder for silk; though I have dyed silk in kermes and got very beautiful and powerful colors by means of it.

Yellow dyes are chiefly given us by weld (sometimes called wild mignonette) quercitron bark (above mentioned), and old fustic, an American dye wood. Of these weld is much the prettier, and is the yellow silk dye *par excellence*, though it dyes wool well enough. But yellow dyes are the commonest to be met with in nature, and our fields and hedgerows bear plenty of greening weeds, as our forefathers called them; since they used them chiefly for greening blue woolen cloth; for, as you may well believe, they, being good colorists, had no great taste for yellow woolen stuff. Dyers'-broom, saw-wort, the twigs of the poplar, the osier, and the birch, heather, broom, flowers and twigs, will all of them give yellows of more or less permanence. Of these I have tried poplar and osier twigs, which both give a strong yellow, but the former not a very permanent one.



Bed-chamber in the Residence of Senor Guell, Barcelona.

Speaking generally, yellow dies are the least permanent of all, as once more you may see by looking at an old tapestry, in which the greens have always faded more than the reds or blues; the best yellow dyes, however, lose only their brighter shade, the "lemon" color, and leave a residuum of brownish yellow, which still makes a kind of green over the blue.

Brown is best got from the roots of the walnut tree or, in their default, from the green husks of the nuts. This material is especially best for "saddening," as the old dyers used to call it. The best and most enduring blacks also were done with this simple dyestuff, the goods being first dyed in the indigo or woad-vat till they were a very dark blue, and then browned into black by means of the walnut root. Catechuu, the inspissated juice of a plant or plants which comes to us from India, also gives rich and useful permanent browns of various shades.

Green is obtained by dyeing a blue of the required shade in the indigo vat, and then greening it with a good yellow dye, adding what else may be necessary (as *e. g.* madder), to modify the color according to taste.

Purple is got by blueing in the indigo vat, and afterward by a vat of cochineal, or kermes or madder; all intermediate shades of claret and murrey and russet can be got by these drugs helped out by "saddening."

Black, as aforesaid, is best made by dyeing dark blue wool with brown; and walnut is better than iron for the brown part, because the iron brown is apt to rot the fibre; as once more you will see in some old pieces of tapestry or old Persian carpets, where the black is quite perished, or at least, in the case of the carpet, gone down to the knots. All intermediate shades can, as aforesaid, be got by the blending of these prime colors, or by using weak baths of them. For instance, all shades of flesh color can be got by weak baths of madder and walnut "saddening;" madder, or cochineal mixed with weld, gives us orange, and with saddening all imaginable shades between yellow and red, including the ambers, maize-color, etc. The crimsons in Gothic tapestries *must* have been got by dyeing kermes over pale shades of blue, since the crimson red-dye cochineal had not yet come to Europe.

A word or two (entirely unscientific) about the processes of this old-fashioned or artistic dyeing.

In the first place, all *dyes* must be soluble colors, differing in this respect from *pigments*, most of which are insoluble, and are only very finely divided, as e. g. ultra-marine, umber, terra verte.

Next, dyes may be divided into those which need a mordant and those which do not; or as the old chemist Bancroft very conveniently expresses it, into *adjective* and *substantive* dyes.

Indigo is the great substantive dye; the indigo has to be deoxidized and thereby made soluble, in which state it loses its blue color in proportion as the solution is complete; the goods are plunged into the solution and worked in it "between two waters," as the phrase goes, and when exposed to the air the indigo they have got on them is swiftly oxidized, and once more becomes insoluble. The process is repeated until the required shade is got. All shades of blue can be got by this means, from the pale "watchet," as our forefathers called it, up to the blue which the eighteenth century French dyers called "Bleu d'enfer." Navy-blue is a politer name for it to-day in England. I must admit that though this seems an easy process, the setting of the blue vat is a ticklish job, and requires, I should say, more experience than other dyeing processes.

The brown dyes, walnut and catechu need no mordant, but are much improved by it. The red dyes, kermes and madder, and the yellow dye weld are especially mordant or adjective dyes. They are all dyed on an aluminous basis. To put the matter plainly the goods are worked in a solution of alum (usually with a little acid added) and after an interval of a day or two (ageing) are dyed in a bath of the dissolved dye stuff.

A *lake* is thus formed on the fibre, which is in most cases very durable. The effect of this "mordanting" of the fibre is clearest seen in the mandering of printed cotton goods, which are first printed with aluminous mordants of various degrees of strength (or with iron if black is needed, or a mixture of iron and alumina for purple), and then dyed wholesale in the madder-beck; the result being that the parts which have been mordanted come out various shades of red, etc., according to the strength or composition of the mordant, while the unmordanted parts remain a dirty pink, which has to be "cleared" into white by soaping and exposure to the sun and air; which process both fixes and brightens the dyed parts.

Pliny saw this going on in Egypt, and it puzzled him very much that a cloth dyed in *one* color should come out colored *diversely*.

That reminds me to say a word on the fish dye of the ancients. It was a *substantive* dye and behaved somewhat as indigo. It was very permanent. The color was a real purple in the modern sense of the word, *i. e.*, a color or shades of a color between red and blue. The real Byzantine books which are written on purple vellum give you some, at least, of its shades. The ancients, you remember, used words for colors in a way that seems vague to us, because they are generally thinking of the *tone* rather than the *tint*. When they wanted to *specify* a red dye they would not use the word purpureus, but coccineus, *i. e.*, scarlet of kermes.

The art of dyeing, I am bound to say, is a difficult one, needing for its practice a good craftsman, with plenty of experience. Matching a color by means of it is an agreeable, but somewhat anxious, game to play.

As to the artistic value of these dye stuffs, most of which, together with the necessary mordant alumina, the world discovered in early times (I mean early *historical* times), I must tell you that they all make in their simplest form beautiful colors; they need no muddling into artistic usefulness, when you need your colors bright (as I hope you usually do), and they can be modified and toned without dirtying, as the foul blotches of the capitalist dyers cannot be. Like all dyes they are not eternal, the sun, in lighting them and beautifying them consumes them; yet gradually, and for the most part kindly; as (to use my example for the last time on this paper), you will see if you look at the Gothic tapestries in the drawing-room at Hampton Court. These colors in fading still remain beautiful, and never, even after long wear, pass into nothingness, through that state of livid ugliness which distinguishes the commercial dyes as nuisances, even more than their short, and by no means merry life.

I may also note that no textiles dyed blue or green, otherwise than by indigo, keep an agreeable color by candle light; many quite bright greens turning into sheer drab. A fashionable blue, which simulates indigo, turns into a slaty purple by candle light; and Prussian blues are also much damaged by it. I except from this condemnation a commercial green known as gas-green, which is as abominable as its name, both by daylight and gaslight, and indeed one would almost expect it to make unlighted midnight hideous.

Quaint and old-fashioned are potpourri jars with perforated lids for perfuming drawing-rooms and boudoirs. A delicious potpourri is that with the odor of the wild rose, delicate and subtle. Among the daintiest of boudoir writing-table ornaments are the miniature Dresden china lamps.

In selecting wall-paper it should be chosen in accordance with good taste, and the most important question to decide is whether it is to form a decoration for itself, or is to become a mere background for pictures. In either case the colors should be subdued in tone. Where water-color drawings are hung in a drawing-room, paper of embossed white or cream color, with very small spots of gold, will not be amiss.

The necessity of a grandfather in the family has begun to make itself felt in dead earnest in America, and if one doesn't have good evidence of him in the shape of a worm-eaten oak sideboard or fiddle-back chair, the fact is due wholly to one's lack of enterprise. Genuine colonial relics are extremely rare, but the accommodating dealers are always equal to an emergency, and antiquities by the carload are being turned out every day.

Nothing is more satisfactory in a chamber than a dull, rough-faced wall. Inequality of surface, however slight, break up the monotony and furnish soft background for the few pictures and draperies with which the wall should be adorned. The ceiling should be, not white, but a paler shade of the frieze. In a chamber, above all other rooms, a handsomely finished wood floor, with rugs, is best, both on account of neatness and health.

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